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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,400	12/05/2003	Gary L. Swoboda	TI-34661	9574
23494	7590	09/14/2006		
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265				
			EXAMINER PETRANEK, JACOB ANDREW	
			ART UNIT 2183	PAPER NUMBER

DATE MAILED: 09/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/729,400

Applicant(s)

SWOBODA, GARY L.

Examiner

Jacob Petranek

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/5/2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 1-14 are pending.
2. The office acknowledges the following papers:  
Patent application filed on 12/5/2003.

### ***Priority***

3. This application claims priority to provisional application 60/434,135. The effective filing date for those claims which have proper support in the provisional application is 12/17/2002.

### ***Drawings***

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the from claims 4, 9, and 14 "a second register storing indicia of event signals" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).
5. Figures 1a and 1b should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so

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as not to obstruct any portion of the drawing figures. The objection to the drawings will not be held in abeyance.

### ***Specification***

6. The disclosure is objected to because of the following informalities:
7. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. The Applicant's cooperation is requested in correcting any errors of which the Applicant may become aware.
8. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claims 4, 9, and 14 states a second register for storing the indicia of the event signals. Figures 2 and 3 show different embodiments of the trigger generation unit coupled to a single register. However, neither figure contains two registers for storing the PC value of offending instructions and it's not described in the specification either.
9. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
  11. Claim 5 recites the limitation "the storage unit" in lines 11 of the claim.
- There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

13. Claim 5 is rejected under 35 U.S.C. §102(e) as being anticipated by Gergen et al. (U.S. 7,013,409).

14. As per claim 5:

Gergen disclosed the method storing program counter address related to the generation of trigger signal, the method comprising:

Generating event signal for each predetermined event (Gergen: Figure 1 elements 12 and 20, column 5 lines 5-23; Figure 5 element 56);

Applying each event signal a trigger generation unit (Gergen: Figure 5 elements 36, 100, and 104, column 5 lines 5-54);

When predetermined event signal or combination event signals applied the trigger generation unit, the trigger generation unit providing trigger signal and a trigger control signal (Figure 5 elements 113 and 119, column 5 lines 55-67 continued to column 6 lines 1-2)(Element 113 controls the counter element and is

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the trigger control signal. Element 119 is the trigger signal.); and

Applying the trigger control signal the storage unit, the storage unit storing the program counter address resulting the generation of the trigger signal the storage unit in response to the trigger control signal (Gergen: Figure 2 element 30, column 3 lines 28-34)(The registers store the breakpoint addresses, which is the address that the instruction caused the breakpoint. This is the same as the program counter.).

### ***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 1-2, 4, and 6-9 are rejected under 35 U.S.C. §103(a) as being unpatentable over Gergen et al. (U.S. 7,013,409), in view of Floyd et al. (U.S. 6,961,875).

17. As per claim 1:

Claim 1 essentially recites the same limitations of claim 5. Claim 1 additionally recites the following limitations:

Gergen failed to teach a delay unit, the delay unit delaying application of the program counter address to the register.

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However, Floyd disclosed a delay unit, the delay unit delaying application of the program counter address to the register (Floyd: Figure 2 element 202, column 4 lines 65-67 continued to column 5 lines 1-5)(The counter causes added delay in storing the event address.).

The advantage of using the counter is that delay is added to ensure that the correct event address is saved upon an event signal. One of ordinary skill in the art would have been motivated by the advantages of correctly saving the event address to implement the delay inducing counter. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the counter for the advantage of correctly saving the event address.

18. As per claim 2:

Gergen and Floyd disclosed the apparatus as recited claim further comprising read bus, wherein second control signal causes the contents of the register to be applied to the read bus (Floyd: Figure 2 elements 220 and 224, column 5 lines 37-41)(Inputting the latch signal allows for the event address to be put on a read bus.).

19. As per claim 4:

Gergen and Floyd disclosed the apparatus as recited in claim 1 further comprising:

A second register, the second register responsive to the control signal for storing indicia of events signals (Gergen: Figure 2 element 30, column 3 lines 28-34)(The registers store the breakpoint addresses, which is the address that the

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instruction caused the breakpoint. This is the same as the program counter. There are multiple registers that could be used to save the program counter.)

20. As per claim 6:

Claim 6 essentially recites the same limitations of claim 1. Therefore, claim 6 is rejected for the same reasons as claim 1.

21. As per claim 7:

Claim 7 essentially recites the same limitations of claim 1. Therefore, claim 7 is rejected for the same reasons as claim 1.

22. As per claim 8:

Claim 8 essentially recites the same limitations of claim 2. Therefore, claim 8 is rejected for the same reasons as claim 2.

23. As per claim 9:

Claim 9 essentially recites the same limitations of claim 4. Therefore, claim 9 is rejected for the same reasons as claim 4.

24. Claims 3 and 10-14 are rejected under 35 U.S.C. §103(a) as being unpatentable over Gergen et al. (U.S. 7,013,409), in view of Floyd et al. (U.S. 6,961,875), further in view of Swoboda (2001/0039488).

25. As per claim 3:

Claim 3 essentially recites the same limitations of claim 10. Therefore, claim 3 is rejected for the same reasons as claim 10.

26. As per claim 10:



Claim 10 essentially recites the same limitations of claim 5. Claim 10 additionally recites the following limitations:

At least one event detection unit, each event detection unit responsive predetermined configuration of the target processing unit for generating related event signal (Gergen: Figure 5 elements 100 and 104, column 5 lines 5-54)(The trigger units detect predetermined event signals.).

Gergen and Floyd failed to teach a state machine, the state machine generating first event signal response a configuration of the target processor;

However, Swoboda disclosed a state machine, the state machine generating first event signal response a configuration of the target processor (Figure 2, paragraphs 86-93).

The advantage of using state machines is that they can be used to detect a plurality of different conditions and react accordingly. One of ordinary skill in the art would have been motivated by this to use a state machine to be able to react to a plurality of different possible events in a debugging system. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement a state machine for the advantage of being able to detect events and act accordingly.

27. As per claim 11:

Claim 11 essentially recites the same limitations of claim 1. Therefore, claim 11 is rejected for the same reasons as claim 1.

28. As per claim 12:

Claim 12 essentially recites the same limitations of claim 2. Therefore, claim 12 is rejected for the same reasons as claim 2.

29. As per claim 13:

Claim 13 essentially recites the same limitations of claim 1. Therefore, claim 13 is rejected for the same reasons as claim 1.

30. As per claim 14:

Claim 14 essentially recites the same limitations of claim 4. Therefore, claim 14 is rejected for the same reasons as claim 4.

### ***Conclusion***

The following is text cited from 37 CFR 1.111(c): In amending in reply to a rejection of claims in an application or patent under reexamination, the applicant or patent owner must clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. The applicant or patent owner must also show how the amendments avoid such references or objections.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Beenstra et al. (U.S. 6,247,147), taught inducing a delay upon receiving trigger signals before storing event addresses.

Jeddeloh (U.S. 6,260,154), taught inducing a delay upon receiving trigger signals before storing event addresses.

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Ogita (U.S. 5,218,693), taught inducing a delay upon receiving trigger signals before storing event addresses.

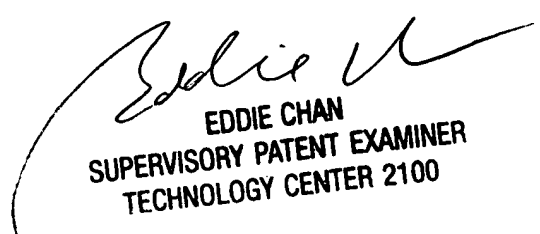
DesRosier et al. (U.S. 6,792,563), taught trigger events and storing event addresses.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob Petranek whose telephone number is 571-272-5988. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jacob Petranek  
Examiner, Art Unit 2183



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